prietest™ easylab

Biochemistry Analyser

USER MANUAL

ROBONIK (INDIA) PVT LTD.
A-374, TTC, MIDC, Mahape,
Navi Mumbai – 400 710(INDIA)
Tel: +91-22-67829700, Fax: +91-22-67829701
Email: sales@robonikindia.com
Website: www.robonik.in

TABLE OF CONTENTS

- **LIST OF PREPROGRAMMED TESTS 6**

1. GENERAL INFORMATION 7

1.1. WARRANTY INFORMATION: 7
1.2. TECHNICAL SERVICE: 7
1.3. DISPOSAL INSTRUCTION: 7
1.4. CONTACTS: 7

2. GENERAL SAFETY WARNINGS 8

2.1. DANGER – WARNINGS SYMBOLS: 8
2.2. USE OF THE INSTRUMENT: 9

3. INTRODUCTION 10

3.1. DESCRIPTION: 10
3.2. SPECIAL FEATURES: 10
3.3. SPECIFICATIONS: 11

4. PACKING, TRANSPORT AND STORAGE 12

4.1. GENERAL WARNINGS: 12
4.2. PACKING: 12
4.3. INSTRUMENT TRANSPORTATION: 12
4.4. STORAGE OF THE INSTRUMENT: 12

5. INSTRUMENT DESCRIPTION 13

5.1. PERSPECTIVE VIEW: 13
A) FRONT VIEW 13
B) REAR VIEW 13
C) KEYPAD: 14
5.2. INSTRUMENT WORKING PRINCIPLE: 15

6. INSTALLATION PROCEDURE AND VERIFICATION CRITERIA 16

6.1. UNPACKING INSTRUCTIONS: 16
6.2. PLACING THE INSTRUMENT: 16
6.3. POWER SUPPLY REQUIREMENTS: 16
6.4. PROTECTIVE GROUNDING: 16
6.5. THERMAL PRINTER: 16
6.6. START UP INSTRUCTIONS: 17
6.7. PRINTER SETTING OPERATIONS: 17
6.8. KEYBOARD CHECK: 18
6.9. SETTING DATE AND TIME: 18
6.10. TO ENTER CLINIC NAME: 18
6.11. OPTICAL GRADE READING TUBE INSERTION PROCEDURE: 18
6.12. CHECK LAMP AMPLITUDE: 19
6.13. READINGS CHECK: 19

7. PRECAUTIONS 20

8. GENERAL KEY OPERATION 21

8.1. FUNC KEY: 21
8.2. MENU KEY: 22
8.2.1. LISTING OF SAVED TEST: 22
8.3. CLEAR KEY: 22
8.4. ENTER KEY: 22

9. GENERAL FUNCTIONS 23

9.1. SELECTING PRIMARY AND SECONDARY FILTERS: 23
9.2. SELECTION OF STANDARD OR FACTOR: 24
9.3. UNITS: 24
9.4. NORMAL VALUE SELECTION: 25
9.5. BASE LINE REFERENCING: 25

10. PROGRAMMING MODE 26

10.1. ABSORBANCE: 26
10.2. FIXED TIME MODE: 31
10.3. KINETIC RATE MODE: 33
10.4. END POINT: 37

11. TROUBLE SHOOTING: 39

11.1. MEMORY CORRUPTS: 39
11.2. ERROR MESSAGES: 40

12. DECONTAMINATION 41

12.1. DECONTAMINATION PROCEDURE: 41
12.2. PURPOSE OF DECONTAMINATION: 41
12.3. GENERAL CONSIDERATIONS: 41
12.4. PROCEDURE: 41

13. SAFETY CLEARANCE CERTIFICATE: 42

14. PACKING LIST 43

The contents of this manual with all figures, tables and graphics are intellectual property of **ROBONIK (INDIA) PVT. LTD.** Unauthorized commercial or non-commercial excerption or copying of contents and use of this manual (in total or in parts) are strictly forbidden unless the editor gives written permission for it.

prietest easylab manual was written and produced with the utmost care. However, errors cannot be fully excluded. Robonik does not take any responsibility and accepts no liabilities of any kind that may occur because of errors in the manual.

Manufacturer:
ROBONIK (INDIA) PVT LTD
A-374, TTC, MIDC, Mahape
Navi Mumbai 400710 (INDIA)
Tel: +91-22-67829700,
Fax: +91-22-67829701
Email:sales@robonikindia.com
Website: www.robonik.in

prietest easylab, Version – 2.1

ROBONIK®
An ISO 9001 : 2008 Certified Company
An ISO 13485 : 2003 Certified Company

House of Diagnostic Equipments

CE

EC Declaration of Conformity

Declaration of conformity in accordance with European Directive 98/79/EC
On ***in vitro*** diagnostic medical devices.

Manufacturer:
ROBONIK (INDIA) PVT.LTD.
PLOT NO. A - 374, TTC MIDC INDUSTRIAL AREA,
MAHAPE, NAVI MUMBAI - 400710, INDIA.
TEL: +91-22-67829700, FAX: +91-22-67829701
sales@robonikindia.com www.robonik.in

PRODUCT : BIOCHEMISTRY ANALYSER

PRODUCT TRADE MARK : *prietest easylab*

The product Described above is in conformity with following standards:

Document Ref No.	Title
IEC 61010 - 1:2001 (2nd Edn)	Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory use.
IEC 61010-2-101 : 2002 (Based on IEC 61010-1:2001)	Particular requirements for in vitro diagnostic (IVD) medical equipment
EN 61326 : 1997 + A1 : 1998	Part 1: General requirements. Electrical Equipment for Measurement, Control, and Laboratory use - EMC Requirements
EN 61326-2-6 : 2006	Electrical equipment for measurement,control and laboratory use—EMC requirements Part2-6: Particular requirements—In vitro diagnostic (IVD) Medical equipment

Subhas Punja

Managing Director

Place : Navi Mumbai,
Date : 1st September, 2009.

➢ List of Preprogrammed Tests

1. Glucose
2. Urea
3. Creatinine
4. Hemoglobin
5. Cholesterol
6. SGPT
7. SGOT
8. Albumin
9. Total Protein
10. Total Bilirubin
11. Direct Bilirubin
12. Alkaline Phosphatase
13. Uric Acid
14. Triglycerides
15. Urea UV
16. Amylase
17. Gamma GT
18. Phosphorus
19. Micro Protein
20. Calcium Ars. III
21. Calcium OCPC
22. HDL Cholesterol
23. Chloride

1. GENERAL INFORMATION

1.1. Warranty Information:

Each Instrument is completely tested and guaranteed for twelve months from delivery. The warranty applies to all the mechanical and electrical parts. It is valid only for proper installation, use, and maintenance in compliance with the instructions given in this manual.

ROBONIK will at its discretion repair or replace parts, which may be found defective in the warranty period. The warranty does not include any responsibility for direct or indirect personal and/or material damages, caused by improper use or maintenance of the instrument.

Parts that are inherently subject to deterioration are excluded from the warranty. In case of defects due to misuse of the instrument, any incidental expenses like travel and man-hour service charges will be charged extra.

1.2. Technical Service:

ROBONIK is always accessible to the customers for any kind of information about installation, use, maintenance, etc. While asking for service, please refer to this manual, and report the printed serial no. on the identification label.

Only qualified technicians are entitled to fix the instrument; the user, as described in this manual, should carry out ordinary maintenance.

ROBONIK's technical service or an authorized service center with specialized technicians, with suitable instrumentation and original spare parts are always available for extraordinary maintenance (repair), under a yearly maintenance contract or on specific demand.

1.3. Disposal Instruction:

In case of removal or disposal of instrument, following instructions need to be followed

1. Do not dispose in municipal waste; follow local regulations for instrument disposal.
2. Plastic parts, Electronic PCBs and components can be recycled, so return back the instrument to manufacturer.

1.4. Contacts:

Manufacturer:

ROBONIK (INDIA) PVT LTD
A-374, TTC, MIDC Industrial Area,
MAHAPE, NAVI MUMBAI –400710
INDIA

Tel: +91-22-67829700,
Fax: +91-22-67829701

Email: sales@robonikindia.com
Website: www.robonik.in

European Authorized Representative

Obelis s.a
34, Av. de Tervuren, bte 44
B-1040 Brussels, BELGIUM
Tel: (32) 2. 732.59.54
Fax: (32) 2.732.60.03
E-Mail : mail@obelis.net

CE

2. GENERAL SAFETY WARNINGS

2.1. Danger – Warnings Symbols:

The following symbols are used to inform the user of the safety rules.

This symbol indicates generic danger. It means that, serious damage can occur to the operator if described precautions are not observed.

This symbol indicates HIGH ELECTRIC VOLTAGE. It is dangerous to touch any part having this label. Only qualified operators can access these components, after unplugging the instrument from the Supply.

This symbol indicates that the instrument involves the handling of samples, which can be infected (urine or human serum). In this condition, infection or contamination might occur. Pay attention to the general safety warnings when in presence of such biological substances. Use Protective clothes, gloves and glasses.

This symbol in the user manual indicates that damages to the instrument or erroneous results could occur if the given warnings are not followed.

This symbol indicates a portion, which is particularly important, and should be studied carefully.

This symbol indicates a Protective Earth or Ground terminal.

General Symbols

Symbol for **"Manufacturer"**

Symbol for **"IN VITRO DIAGNOSTIC MEDICAL DEVICE"**

Symbol for **"AUTHORISED REPRESENTATIVE IN THE EUROPEAN COMMUNITY"**

2.2. Use of the Instrument:

The instrument has to be used for the designed purposes under specified conditions; following proper procedures and safety rules, by qualified personnel.

THIS MANUAL CONTAINS INSTRUCTIONS FOR OPERATION BY QUALIFIED PERSONNEL ONLY.

1) A qualified user has to make sure that the environmental condition is suitable, the Installation is correct, the use and maintenance are proper, according to the general Safety rules as well as to the particular precautions described in the manual (However, the user is not entitled to repair the instrument).

2) A qualified technician is entitled to maintain and fix the instrument, according to the Instructions given, using the original spare parts.

3) Maintain room temperature and humidity as specified in the manual.

4) The instrument has to be used as described in this manual. If it is not used, then the Protection provided by the instrument may be impaired.

5) Alterations to the instrument are strictly prohibited. The user is liable and solely responsible for any improper modification to the instrument, and for the consequences derived as a result.

6) Should the instrument need extraordinary maintenance, contact ROBONIK service or an authorized service center. Specialized technicians, who will be able to repair the instrument using original spare parts, will carry out the maintenance.

7) This IVD equipment complies with the emission and immunity requirements as per IEC61326 series.

8) Warning: This equipment has been designed and tested to CISPER11 Class A. In a domestic environment it may cause radio interference, in which case, you may to take measures to mitigate the interference."

9) An advisory that the electromagnetic environment should be evaluated prior to operation of the device.

10) Warning: Do not use this device in close proximity to sources of strong Electromagnetic radiation (e.g. unshielded international RF sources), as these may interfere with the proper operation.

3. INTRODUCTION

3.1. Description:

prietest easylab is a pre programmed Biochemistry analyzer. It measures the optical densities of samples and it uses algorithm to calculate results, which are used for biochemical investigations. It has direct access to stored programs. It is intended for in vitro diagnostic use.

3.2. Special Features:

1) Effective temperature regulation system for 15 position dry block incubator.
2) Peltier controlled Optical Grade Reading Tube block.
3) Versatile calculation option by factor or standard concentration.
4) Robust in built 20 Column Thermal Printer with 384 stationary heads.
5) Unique circuitry for long lamp life.
6) 500 µl Optical Grade Reading Tube volume.
7) Built in stabilizer.

3.3. Specifications:

Linear measurement range	:	0.000 to 3.000 Absorbance Units (A).
Photometric Accuracy	: :	± 2 % or 0.007 whichever is higher , from 0 to 1.5 A ± 3 % from 1.5 A to 3.0 A
Drift	:	<0.007 A/hr
Optical measurement	:	Photodiode
Filters Type of filter Filter Selection	 : :	 Interference Automatic by Stepper Motor
Optical Grade Reading Tube Volume	:	500 µl
Temperature of Optical Grade Reading Tube Block Method Temperature	 : :	 By Peltier Control 37^0 C
Dry Block Incubator Number of Optical Grade Reading Tube Temperature	 : :	 15 Optical Grade Reading Tubes 37^0C
Light Source	:	Tungsten Halogen
Warm up time	:	90 Sec
Display	:	Four Line LCD, back lit, 4 X 20 Characters
Printer	:	Built – in thermal printer 20 columns
Concentration Calculation	:	By factor or by Standard
Power Wattage Voltage	 : :	 50 Watts 115 – 230 Volts ± 10%, 50/60 Hz
Operating Position	:	On horizontal flat, rigid & vibration free surface
Operating Conditions Temperature Relative Humidity	 : :	 From + 18^0 C to 35^0 C Up to 85 %
Storage Conditions Temperature Relative Humidity	 : :	 From – 10^0 C to 50^0 C Up to 85 %
Enclosure	:	ABS Fire retardant
Size (cm)	:	33 X 29 X 13.5 (l X b X s)
Weight (Approx)	:	5 Kg

4. PACKING, TRANSPORT AND STORAGE

4.1. General Warnings:

Instrument has to be decontaminated before packing for transportation.

4.2. Packing:

Packaging is needed whenever it is to be transported or shipped by courier or other means.

- To pack the instrument follow the instructions as below described:

1) Decontaminate the instrument as explained in Chapter No. 11 (Decontamination) of this manual.

2) Place the instrument into the original packaging box; Instrument has to be properly protected by plastic protective material. Put copy of safety clearance certificate (copy of Safety Clearance certificate is attached at the end of this manual)

3) Mark the package with address, instrument identification and warning Labels.

4.3. Instrument Transportation:

The transportation of the instrument in unpacked condition must be limited within the room where it is used, to avoid damage.

4.4. Storage of the Instrument:

Before storing the instrument for a long period, pack it carefully as described above and store indoors.

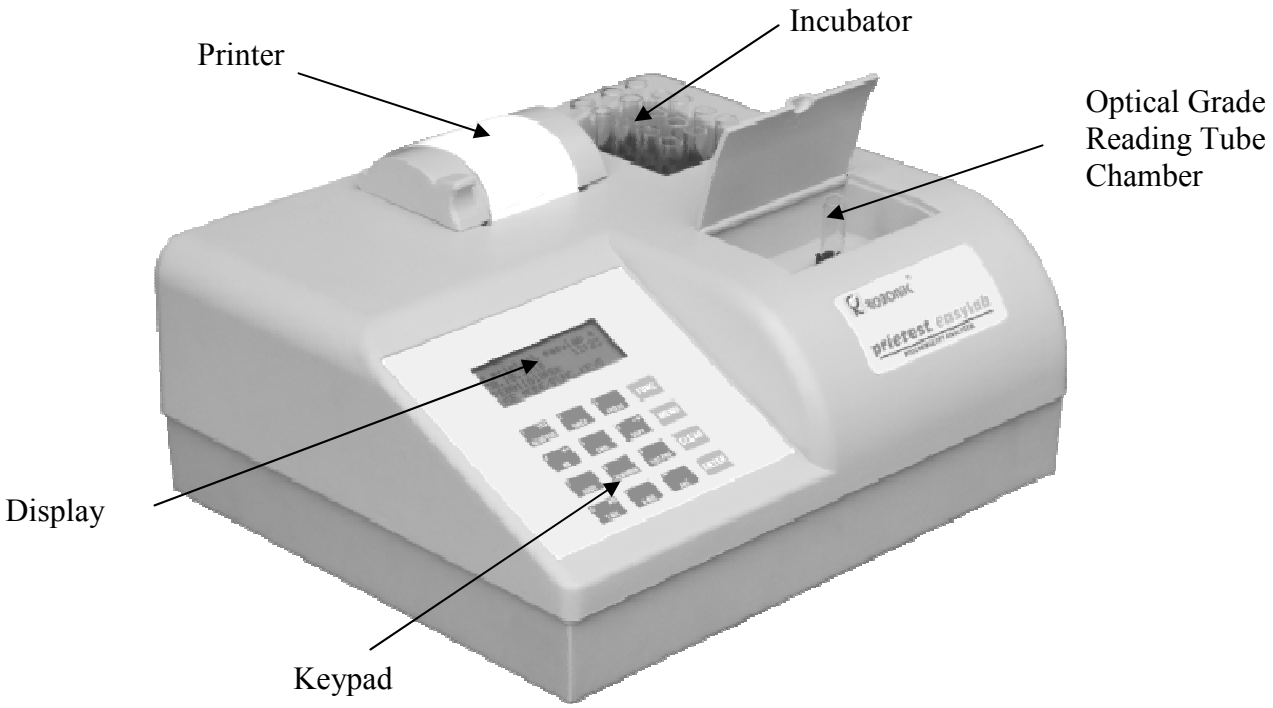
Relative humidity has to be less than 85%, and temperature between 0ºc and 50ºc.

5. INSTRUMENT DESCRIPTION

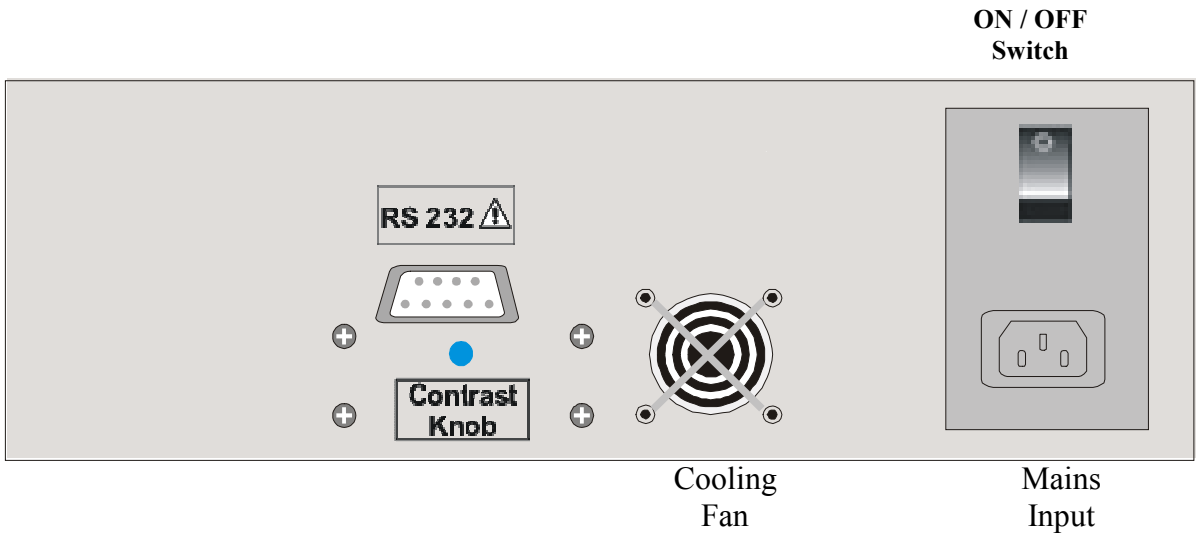
Components of different views of the below pictured instrument:

5.1. Perspective View:

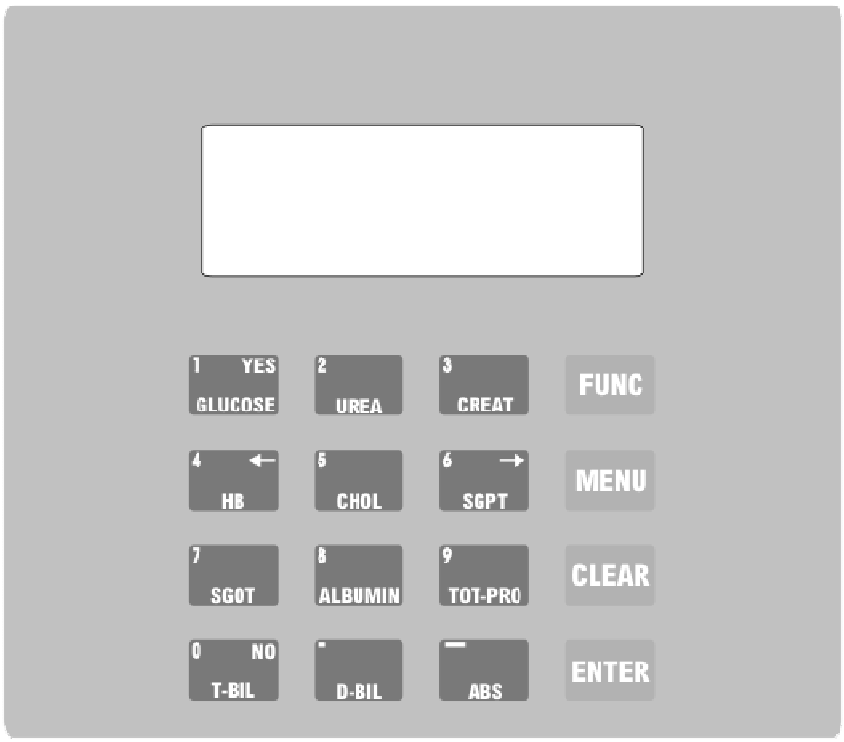
a) Front View



b) Rear View



c) Keypad:



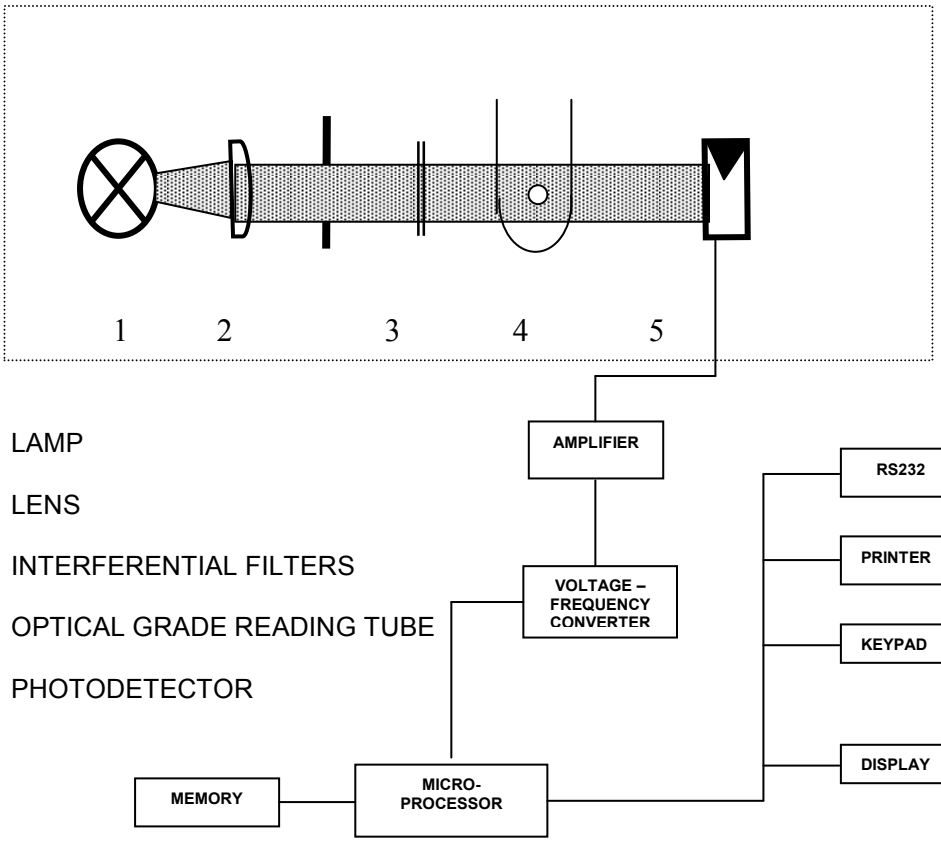
1) GLUCOSE / YES key: To directly access “Glucose” test or to select “Yes” option.
2) UREA key: To directly access “Urea” test.
3) CREAT key: To directly access “Creatinine” test.
4) HB key: To directly run “Hemoglobin” test.
5) CHOL Key: To directly run “Cholesterol” test.
6) SGPT key: To directly run “SGPT” test.
7) SGOT key: To directly run “SGOT” test.
8) ALBUMIN key: to directly run “Albumin” test.
9) TOT-PRO key: To directly run “Total Protein” test.
10) T-BIL / NO key: To directly access “Total Bilirubin” test or to select “No” option
11) D-BIL key: To directly run “Direct Bilirubin” test.
12) ABS key: to run the “Absorbance” mode by selecting any filter.
13) FUNC key: To do different functions like date & time setting, printer On/Off, etc.
14) MENU key: To recall the test stored at number from 12 to 23.
15) CLEAR key: To stop any current running function and go back to main screen.
16) ENTER key: to start the selected function.

5.2. Instrument Working Principle:

Instrument functional sequence:

1. Switch “ON” and program the instrument
2. Start the test.
3. The measures and the calculations are carried out according to the assay Method.
4. At the end of the cycle the results are printable and at the same time they are available at the RS232 serial port output.

The diagram representing the main functional elements of the instrument.



1 LAMP

2 LENS

3 INTERFERENTIAL FILTERS

4 OPTICAL GRADE READING TUBE

5 PHOTODETECTOR

White light produced by the lamp is focused into a beam by the lens. It is passed through the Interference filter to get monochromatic light. This further passes through the sample. Part of the light is absorbed by the sample, the remaining light is transmitted. The transmitted light is focused onto the photodiode. The photodiode converts the received light in to an electrical signal that is transformed into digital form, from which the microprocessor calculates the optical density, taking in account of the blank and bi-chromatic selection.

6. Installation Procedure and Verification Criteria

6.1. Unpacking Instructions:

Check accessories as per packing list
Kindly store all packing materials so as to use it to repack and ship for maintenance or servicing.

6.2. Placing the Instrument:

1) The instrument has to be placed on a level bench.

2) Room temperature has to be between 10 and 35ºC with a relative humidity below 85%.

3) Protect it from direct sunshine

6.3. Power Supply Requirements:

Once the instrument has been placed, plug it into a power source by the locally available approved plug-in cable. Power cord should be CE, CSA, and UL marked.
115 - 230 Volts ± 10V, 50-60 Hz

6.4. Protective Grounding:

Warning: Please make sure that electrical power source is properly grounded.

6.5. Thermal Printer:

Internal Printer (Thermal Printer)

prietest easylab comes with a built in 20 column Thermal Printer. User has to take proper care to handle this delicate instrument.

TIPS FOR CAREFUL USAGE OF PRINTER

1) Do not pull the paper when loaded.
2) Lift the paper lever carefully and load the paper.
3) Keep the instrument clean and dust free.

prietest easylab gives line feed automatically wherever it is necessary for clear reading like-

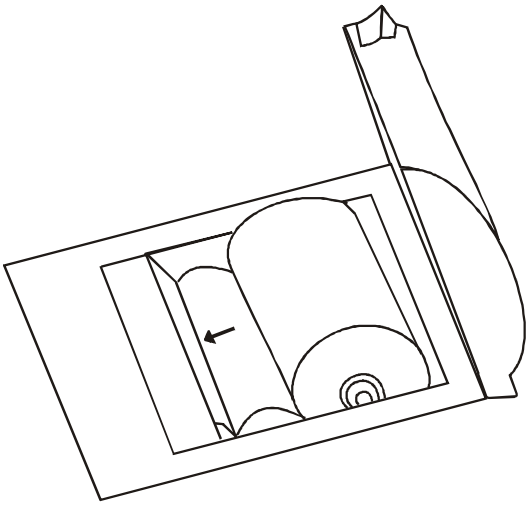
a. While powering on
b. In between character lines

User may operate the instrument by disabling the printer from the utilities menu.

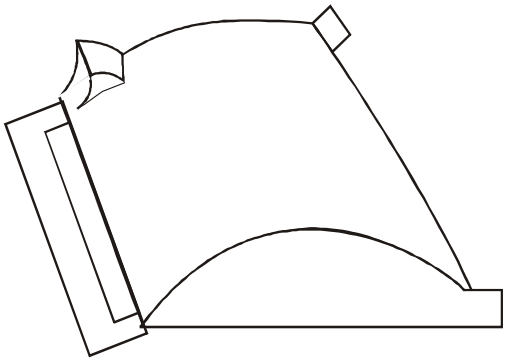
How to insert the paper

Insert the thermal paper roll by placing the sensitive side facing down. The sensitive paper side is recognizable by its smoother face.

Before inserting the paper



After inserting the paper



6.6. Start up Instructions:

1) Switch on the instrument. The instrument will display the model name.
2) The instrument initializes all the parameters internally, and carries out a power on self-test. It then displays 'model name "and the time indicating that initialization is complete. If a printer is enabled, model name, the time, and the date will be printed.
3) If the correct date and time are not displayed, switch off the instrument and switch ON again.
4) Once initialization is over, a lamp located within the instrument will glow. This lamp requires 90 seconds for stabilization.
5) The instrument is now in IDLE mode, and ready for use.

6.7. Printer setting Operations:

Press MENU key under Programming Mode.
In case of any problems in thermal printer, following message will displayed

"SET PRINTER PR ENTER"
"SKIP PRINTER PR YES"

User may operate the instrument by disable the printer.

To Set Printer

1) Press **FUNC** key
2) Set time Y/N
3) Press **No** key
4) Set printer Y/N
5) Press **Yes** key
6) Printer on? Y/N
7) Press **No** key to switch off the printer;
   Press **YES** key to switch "On" the printer.

6.8. Keyboard Check:

Check keyboard by pressing **MENU** key first and all other keys later, one should get a beep and either Alphanumerical or Numerical should appear on display.

6.9. Setting Date and Time:

Setting of date and time can be done with the help of FUNC key

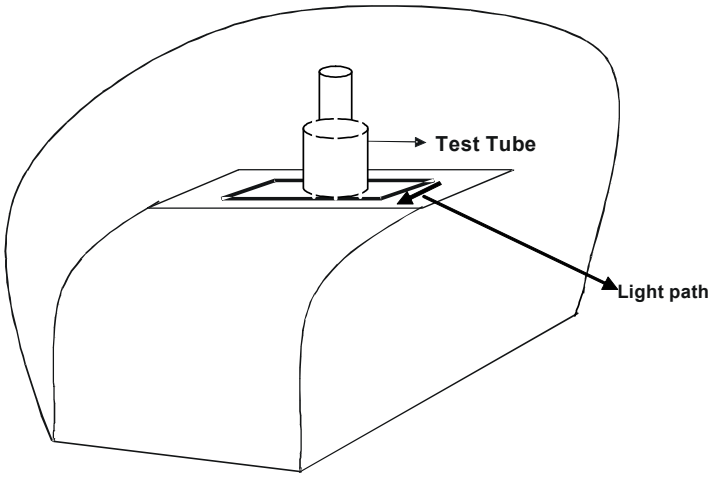
1) Press **FUNC** key
2) Set time Y/N
3) Press **Yes** key
4) The instrument displays DATE DD.MM.YY
5) Enter date month and year in the same format
6) Press **ENTER** key
7) The instrument displays TIME HH.MM.SS.
8) Enter hour, minutes, and seconds in 24 hr format.
9) Press **ENTER** key
10) The instrument goes back to idle position

6.10. To Enter Clinic Name:

1) Press **MENU** Key
2) Choose Test
3) Enter **205** press **ENTER** Key
4) Clinic Name Y/N
5) Press **Yes** key
6) ABCDEFGHIJKLMN
7) Select the characters using arrow keys, Key No **4** and **6**, confirm by pressing **ENTER** on blinking character. Conclude by pressing **ENTER** key twice at the last character, a maximum number of 15 characters can be entered.

6.11. Optical Grade Reading Tube Insertion Procedure:

Optical path direction is as shown in the diagram below; Optical Grade Reading Tube should be inserted.



Front View Section

6.12. Check Lamp Amplitude:

1) Press **MENU** key
2) CHOOSE TEST
3) Press **201** and press **ENTER** Key.
4) The instrument shall print lamp amplitude in the following format

340 Amplitude **405** Amplitude
545 Amplitude **510** Amplitude
578 Amplitude **630** Amplitude

The amplitude should be in the range of 3.000 to 11.000 without Optical Grade Reading Tube.

Press CLEAR to come back to the Main screen.

6.13. Readings Check:

Checking of readings should be done through controls. Reading should be with range specified in data sheet of controls (care should be taken while preparing and pipetting controls and reagents, reagent and control expiry dates need to be checked.)

1) Switch on the instrument. The instrument will display the model name.

2) The instrument initializes all the parameters internally, and carries out a power on self-test. It then displays ‘model name “and the time indicating that initialization is complete. If a printer is enabled, model name, the time, and the date will be printed.

3) If the correct date and time are not displayed, switch off the instrument and switch ON again.

4) Once initialization is over, a lamp located within the instrument will glow. This lamp requires 90 seconds for stabilization.

5) The instrument is now in IDLE mode, and ready for use.

7. PRECAUTIONS

1) Keep the place dry and clean.

2) Check all the grounding wires properly.

3) Repeat the readings, if Absorbance is more than 2.0 A.

4) Use original packaging for transportation.

5) Use clean Optical Grade Reading Tube. Check the blank absorbance of the Optical Grade Reading Tube at regular intervals

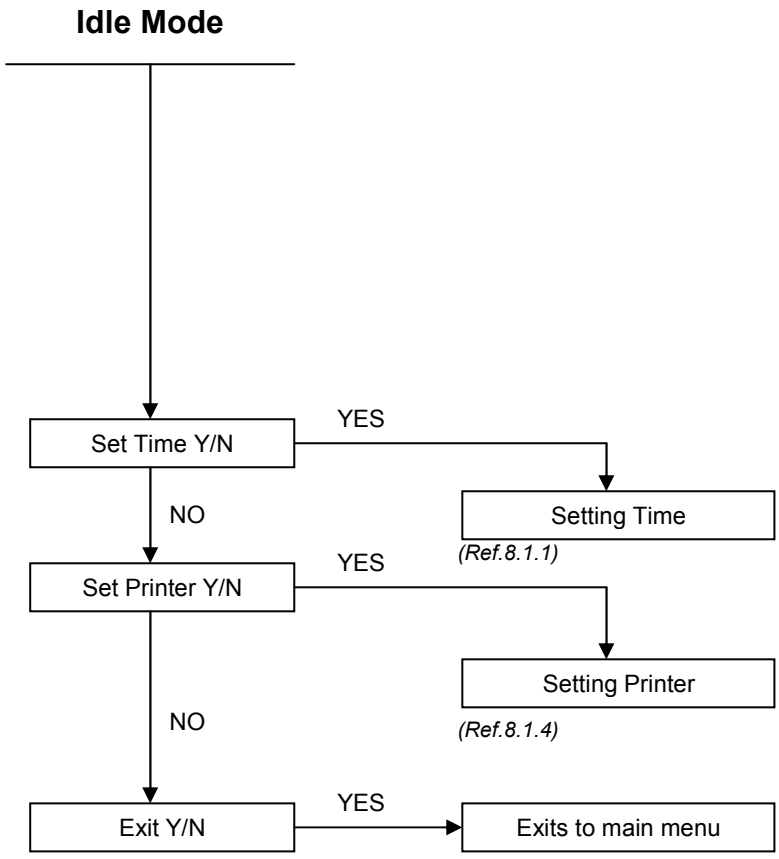
6) Check the temperature of Optical Grade Reading Tube block at regular intervals especially before running kinetic and fixed time tests.

7) Check the linearity of the instrument at regular intervals using standards.

8) Do not take reading when the lid is open.

8. GENERAL KEY OPERATION

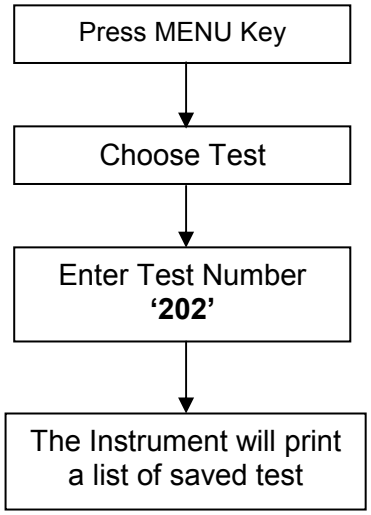
8.1. FUNC Key: FUNC



8.2. MENU Key: MENU

This key is used to select the saved tests.

8.2.1. Listing of saved test:



8.3. CLEAR Key: CLEAR

Press twice to initialize the instrument. Under data entry mode it will clear the entered data while pressing once.

8.4. ENTER Key: ENTER

To complete the command / data entry.

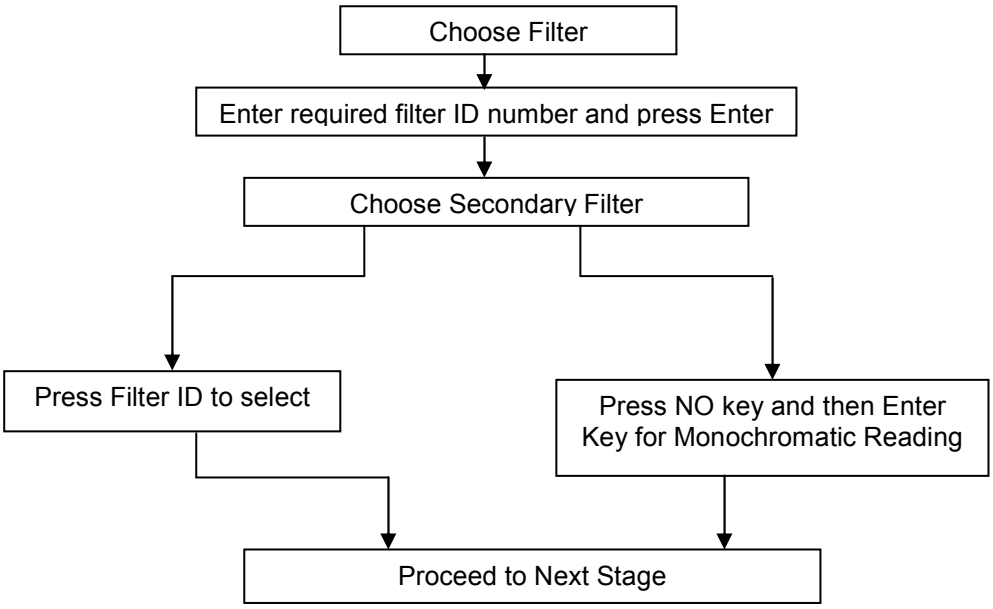
9. GENERAL FUNCTIONS

9.1. Selecting Primary and Secondary Filters:

The instrument asks the operator to select the primary and secondary filters. Select the filter using identification number given below. In all modes the operation begins by asking the filter to be selected. The following 6 filters have been provided.

Filter Identification Key No.	Filter Wavelength
1	340 nm
2	405 nm
3	510 nm
4	546 nm
5	578 nm
6	630 nm

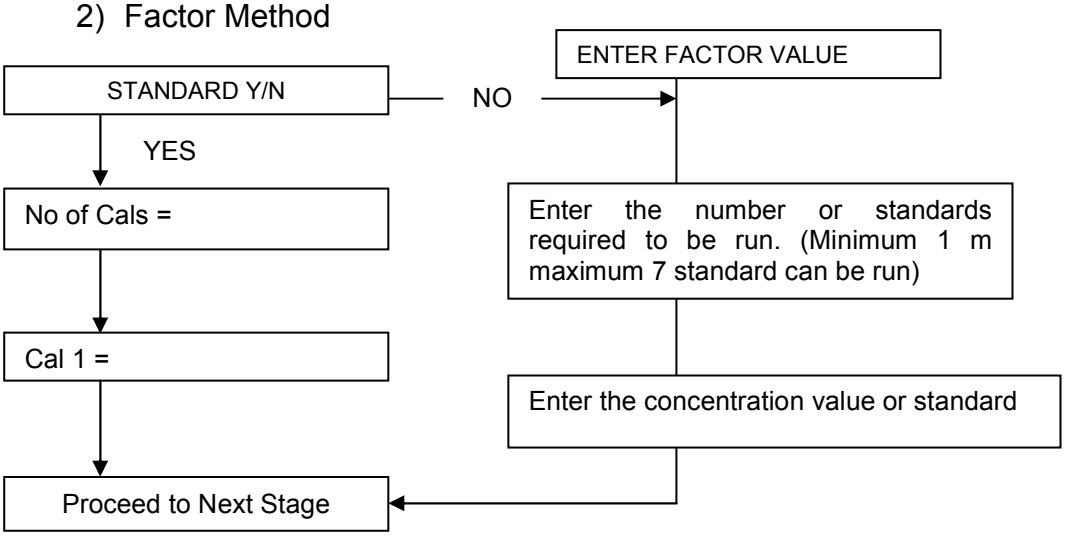
Operation
After selecting programming mode instrument prompts for filter selection


Choose Filter
Enter required filter ID number and press Enter
Choose Secondary Filter
Press Filter ID to select
Press NO key and then Enter Key for Monochromatic Reading
Proceed to Next Stage

9.2. Selection of Standard or Factor:

prietest easylab has the flexibility to calculate the results by

1) Standard concentration method
2) Factor Method


ENTER FACTOR VALUE
STANDARD Y/N
NO
YES
No of Cals =
Enter the number or standards required to be run. (Minimum 1 m maximum 7 standard can be run)
Cal 1 =
Enter the concentration value or standard
Proceed to Next Stage

9.3. Units:

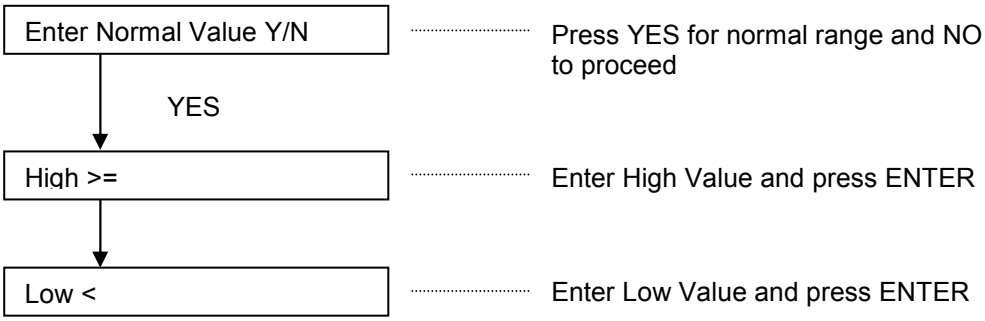
Units can be selected by using the corresponding number key

UNIT KEY NO.	UNIT
1	U/L
2	U/ml
3	mU/ml
4	mEq/L
5	MIL
6	mmo/l
7	umo/L
8	nmo/L
9	%
•	ug/mL
—	g/dL
10	G/L
11	Mg/dl
12	Ug/dl
13	G/dl
14	Ug/ml

9.4. Normal Value Selection:

Enter the Normal range of the test

prietest easylab calculates the results and validates with normal ranges and flags the remarks accordingly


Enter Normal Value Y/N
Press YES for normal range and NO to proceed
YES
High >=
Enter High Value and press ENTER
Low <
Enter Low Value and press ENTER

9.5. Base Line Referencing:

After the lamp warm up, instrument prompts for REFERENCE, indicates the user to remove the cuvette from optical path, if any & close lid. The instrument reads air as reference and automatically adjusts the reference. Now instrument is ready for reading samples.

10. PROGRAMMING MODE

10.1. Absorbance:

The instrument reads and prints the monochromatic and Bichromatic Absorbance at the user selected wavelength.

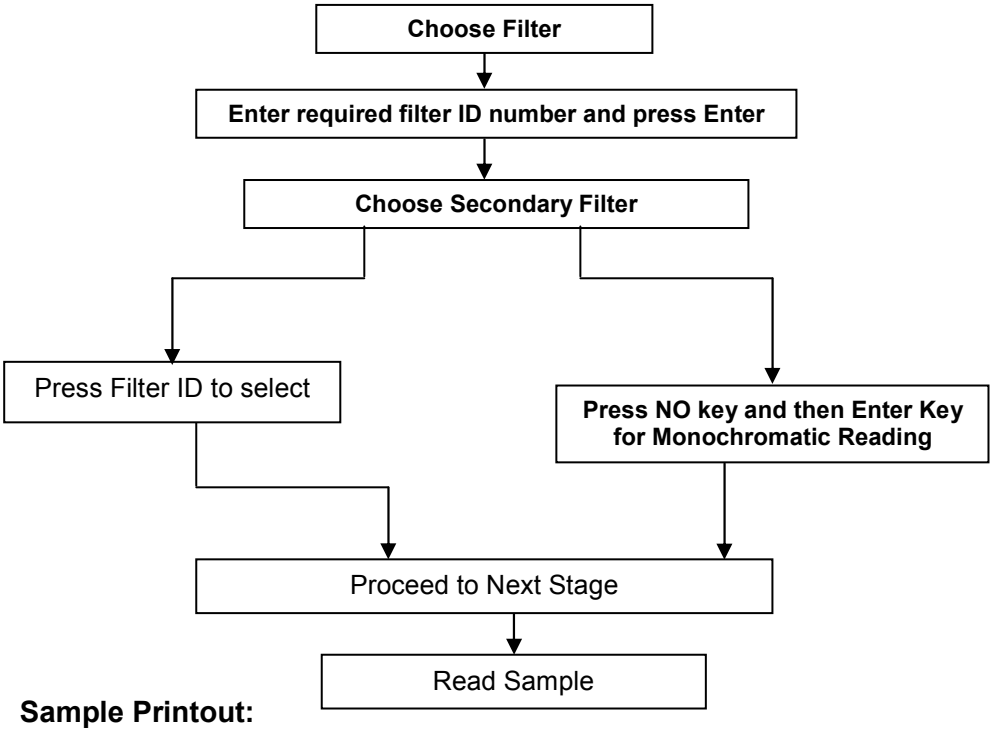
Filter Identification Key No.	Filter Wavelength
1	340 nm
2	405 nm
3	510 nm
4	546 nm
5	578 nm
6	630 nm

OPERATION

Press ABS key to enter the mode

After selecting programming mode instrument prompts for filter selection

Display


Choose Filter
Enter required filter ID number and press Enter
Choose Secondary Filter
Press Filter ID to select
Press NO key and then Enter Key for Monochromatic Reading
Proceed to Next Stage
Read Sample

Sample Printout:

```
 ABSORBANCE
Filters 340     nm
 37 DEGREE
S. No   ABS   REM   CON
……..……

S1   1.160
S2   2.173
TEST CLEARED
```

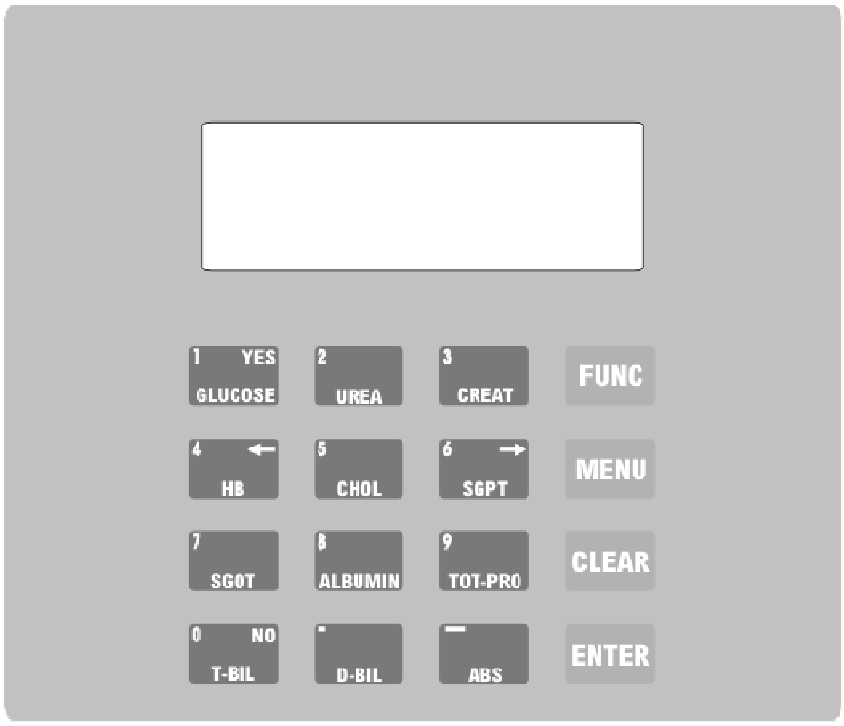
Displays / Prints the Absorbance value along with Sample numbers. Continue till all samples are read.

➢ Recalling the test:

Prietest easylab Biochemistry Analyzer consists of 23 different tests.11 tests are present on the keypad whereas remaining 12 tests can be programmed by selecting **"MENU"** key & Followed by Test Number.

1. Direct access tests, by Keypad.

There are 11 different preprogrammed tests present on keypad.



1st key consists of Glucose test and "Yes" option. Similarly, UREA, CREAT, HB, CHOL, SGPT, SGOT, ALBUMIN, TOT-PRO, T-BIL and D-BIL TESTS are present on the corresponding keys of the keyboard.

Whereas the 12th key consists of ABS mode. User can Directly Access to the test created. The test parameters of each test are shown as follows:

1. GLUCOSE	2. UREA MOD	3. CREAT
GLUCOSE Filters 510 nm 37 DEGREE MODE END POINT UNITS mg/dL NORMAL VALUE HIGH > 110.000 LOW < 70.000 S. No ABS REM CON. B C1 100.0	UREA MOD Filters 578 nm 37 DEGREE MODE END POINT UNITS mg/dL NORMAL VALUE HIGH > 43.000 LOW < 13.000 S. No ABS REM CON. B C1 40.0	CREAT Filters 510 nm 37 DEGREE MODE FIXED TIME UNITS mg/dL LAG TIME 30 RD TIME 90 HIGH INIT ABS<= I ABSM 0.400 DELTA= 0.600 NORMAL VALUE HIGH > 1.500 LOW < 0.700 S. No ABS REM CON. C1 2.0

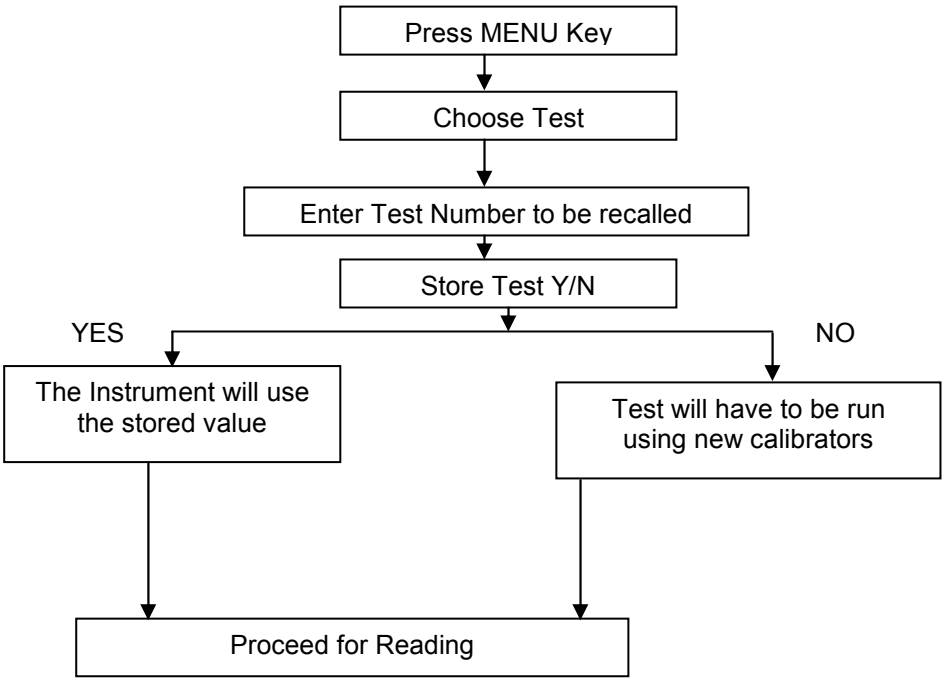
4. HB	5. CHOLESTEROL	6. SGPT
HB Filters 545 nm 37 DEGREE MODE END POINT K FACTOR 1.000 UNITS g/dL FACTOR= 36.800 NORMAL VALUE HIGH > 16.300 LOW < 12.000 S. No ABS REM CON. B	CHOLESTEROL Filters 510 nm 37 DEGREE MODE END POINT UNITS mg/dL NORMAL VALUE HIGH > 200.000 LOW < 150.000 S. No ABS REM CON. B C1 200.0	SGPT Filters 340 nm 37 DEGREE MODE KINETIC RA K FACTOR 1.000 UNITS U/L LAG TIME 60 RD TIME 60 # OF RD 4 LOW INIT ABS>= I ABSM # 1.000 DELTA/MI # 0.229 FACTOR= # 1746 NORMAL VALUE HIGH > 40.000 LOW < 0.000
7. SGOT	**8. ALBUMIN**	**9. TOTAL PROT**
SGOT Filters 340 nm 37 DEGREE MODE KINETIC RA K FACTOR 1.000 UNITS U/L LAG TIME 60 RD TIME 60 # OF RD 4 LOW INIT ABS>= I ABSM # 1.000 DELTA/MI # 0.229 FACTOR= # 1746 NORMAL VALUE HIGH > 38.000 LOW < 0.000	ALBUMIN Filters 630 nm 37 DEGREE MODE END POINT UNITS g/dL NORMAL VALUE HIGH > 5.200 LOW < 3.500 S. No ABS REM CON. B C1 4.0	TOTAL PROT Filters 545 nm 37 DEGREE MODE END POINT UNITS g/dL NORMAL VALUE HIGH > 8.800 LOW < 6.600 S. No ABS REM CON. B C1 6.0

10. T-BILL	11. D-BILL
T-BILL Filters 545 nm 37 DEGREE MODE DIFERNTIAL K FACTOR 1.000 UNITS mg/dL LAG TIME FACTOR= 14.000 NORMAL VALUE HIGH > 1.100 LOW < 0.000	D-BILL Filters 545 nm 37 DEGREE MODE DIFFERENTIAL K FACTOR 1.000 UNITS mg/dL LAG TIME FACTOR= 14.000 NORMAL VALUE HIGH > 0.250 LOW < 0.000

2. To recall a test which is accessed by selecting "MENU" option

Above 11 tests are present on the keypad. Whereas remaining 12 tests can be accessed by selecting the MENU option present on the screen.

a) Recalling of Saved Test:

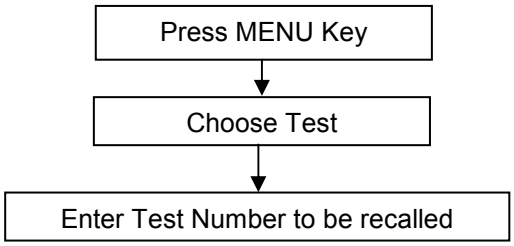


12. ALP	13. URIC ACID	14. TRIGLY
ALP Filters 405 nm 37 DEGREE MODE KINETIC RA K FACTOR 1.000 UNITS U/L LAG TIME 60 RD TIME 60 #OF RD 4 HIGH INIT ABS<= I ABSM # 0.800 DELTA/MI # 0.258 FACTOR= # 2712 NORMAL VALUE HIGH > 147.000 LOW < 44.000	URIC ACID Filters 510 nm 37 DEGREE MODE END POINT UNITS mg/dL NORMAL VALUE HIGH > 8.200 LOW < 2.300 S. No ABS REM CON. B C1 6.0	TRIGLY Filters 510 nm 37 DEGREE MODE END POINT UNITS mg/dL NORMAL VALUE HIGH > 200.000 LOW < 150.000 S. No ABS REM CON. B C1 200.0

15. UREA UV	16. AMYLASE	17. GAMMA GT
UREA UV Filters 340 nm 37 DEGREE MODE FIXED TIME UNITS mg/dL LAG TIME 30 RD TIME 60 LOW INIT ABS>= I ABSM 1.000 DELTA= 0.500 NORMAL VALUE HIGH > 43.000 LOW < 13.000 S. No ABS REM CON. C1 40.0	AMYLASE Filters 405 nm 37 DEGREE MODE KINETIC RA K FACTOR 1.000 UNITS U/L LAG TIME 120 RD TIME 60 # OF RD 4 HIGH INIT ABS<= I ABSM # 0.400 DELTA/MI # 0.250 FACTOR= # 3954 NORMAL VALUE HIGH > 90.000 LOW < 0.000	GAMMA GT Filters 405 nm 37 DEGREE MODE KINETIC RA K FACTOR 1.000 UNITS U/L LAG TIME 60 RD TIME 60 # OF RD 4 HIGH INIT ABS<= I ABSM # 0.800 DELTA/MI # 0.452 FACTOR= # 2211 NORMAL VALUE HIGH > 55.000 LOW < 0.000
18. PHOSP	**19. MICRO PRO**	**20. CALCIUM ARSEN**
PHOSP Filters 340 nm 37 DEGREE MODE END POINT UNITS mg/dL NORMAL VALUE HIGH > 4.500 LOW < 2.700 S. No ABS REM CON. B C1 5.0	MICRO PRO Filters 630 nm 37 DEGREE MODE END POINT UNITS mg/dL NORMAL VALUE HIGH > 14.000 LOW < 1.000 S. No ABS REM CON. B C1 50.0	CALCIUM ARSEN Filters 630 nm 37 DEGREE MODE END POINT UNITS mg/dL NORMAL VALUE HIGH > 10.300 LOW < 8.600 S. No ABS REM CON. B C1 10.0
21. CALCIUM OCPC	**22. HDL CHOLE**	**23. CHLORIDE**
CALCIUM OCPC Filters 578 nm 37 DEGREE MODE END POINT UNITS mg/dL NORMAL VALUE HIGH > 10.300 LOW < 8.600 S. No ABS REM CON. B C1 8.0	HDL CHOLE Filters 510 nm 37 DEGREE MODE END POINT UNITS mg/dL NORMAL VALUE HIGH > 60.000 LOW < 40.000 S. No ABS REM CON. B C1 50.0	CHLORIDE Filters 510 nm 37 DEGREE MODE END POINT UNITS mmo/L NORMAL VALUE HIGH > 107.000 LOW < 98.000 S. No ABS REM CON. B C1 100.0

10.2. Fixed Time Mode:

To create test in this mode select Test No. 241



Enter 241

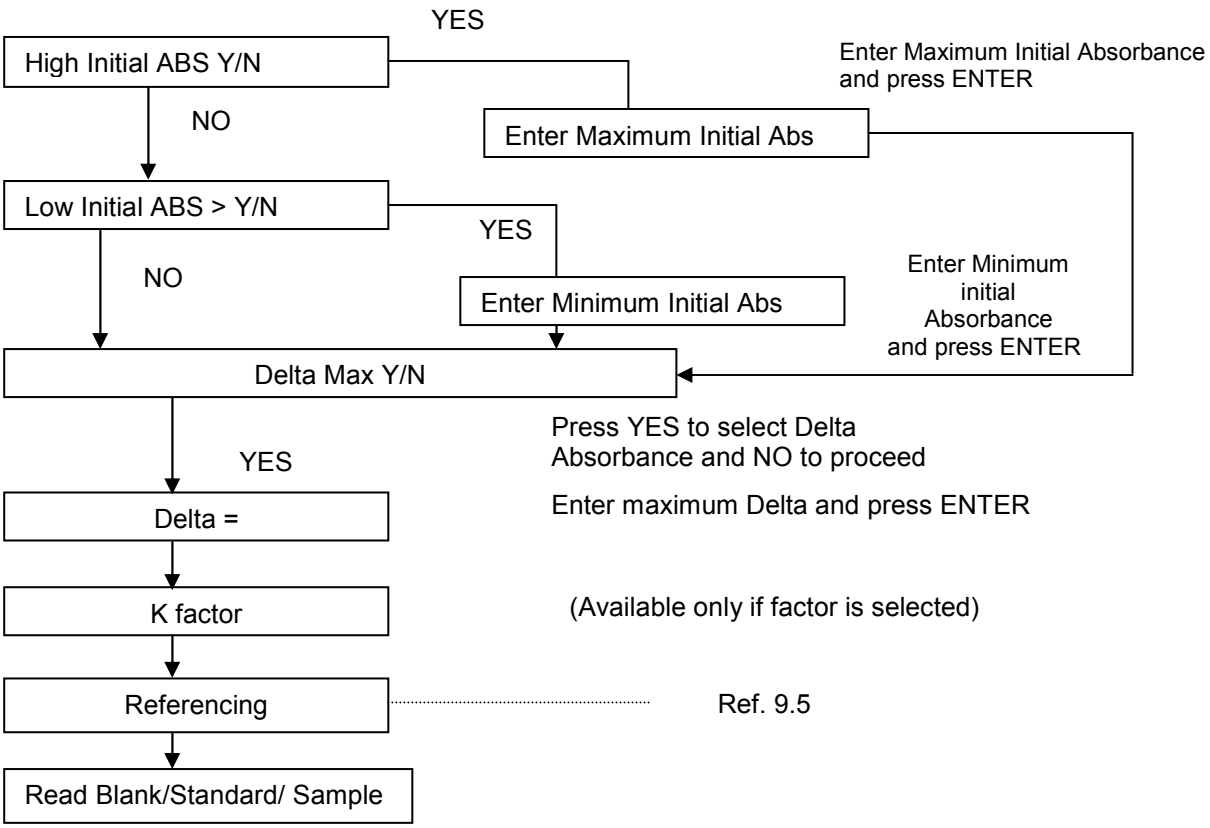
Change in absorbance of sample is taken at programmed time interval and concentration is calculated either from the factor fed by the user or using standard.

OPERATION

Display	**How to operate**
Select Filter	Ref. 9.1
Blank Y/N	If YES, blanking need to be done, before running Standard or Factor
YES / NO	
Select Standard or Factor	Ref. 9.2
Unit Selection	Ref. 9.3
Normal Value Selection	Ref 9.4
Select the Lag time	Enter Selecting the Number Keys
Select the Read Interval time	Select Corresponding Number Keys (min. 3 Seconds)

Continued on next page

Continued from previous page



– Instrument will wait till the temperature of cuvette reaches the set temperature Instrument will read the absorbance and calculate concentration and then displays / prints in following format.

Sample Print out:

WITH STANDARD

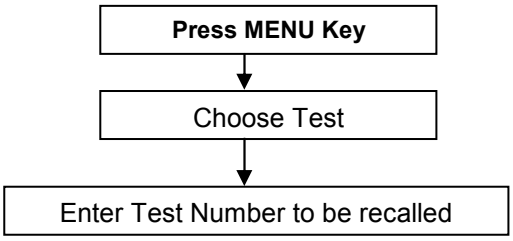
```
 FIXED TIME
 Filters 630      nm
 FACTOR            100.0
 UNITS          mmo/L
 HIGH>             250.0
 LOW<               50.0
 LAG TIME    5
 RD TIME     20
 #  OF RD
 QC HIGH =         250.0
 QC LOW =           50.0
 HIGH INIT ABS <=
 I ABS  =          2.000
 DELTA=            1.500
 S.No   ABS  REM CON
.....................................
BL1     0.043
S  1    1.248
   2    1.308
 DELTA=
 RES  0.059 LOW   5.9
S  2    1.275
  3     1.732

DELTA=
 RES  0.456 LOW   45.6
S  3    0.129
  4     1.163
DELTA=
 RES  1.034 NORM  103.4
S  4    0.095
  5     2.846
DELTA=
 RES  2.750 HIGH   275.0
  TEST CLEARED
```

WITH FACTOR

```
  FIXED TIME
Filters 630      nm
CAL1               50.0
UNITS          umo/L
HIGH>             300.0
LOW<               80.0
LAG TIME    5
RD TIME     20
 #  OF RD
 QC HIGH =         300.0
 QC LOW =          100.0
 HIGH INIT ABS <=
 I ABS  =          2.000
 DELTA=            2.000
 S.No   ABS  REM CON
.....................................
BL1     0.026
CALS 1.135          50.0
   1    1.311          1
DELTA=
CALS 0.176           0.0
FACTOR           283.82
S  1    1.159
   1    1.316
DELTA=
RES     0.157  LOW  44.7
S  2    1.167
   2    1.717
DELTA=
RES     0.55  NORM  156.2
S  3    0.108
   3    2.463
DELTA=
RES     2.355  HIG   668.4
```

10.3. Kinetic Rate Mode:

To create test in this mode select Test No. 242



Enter 242

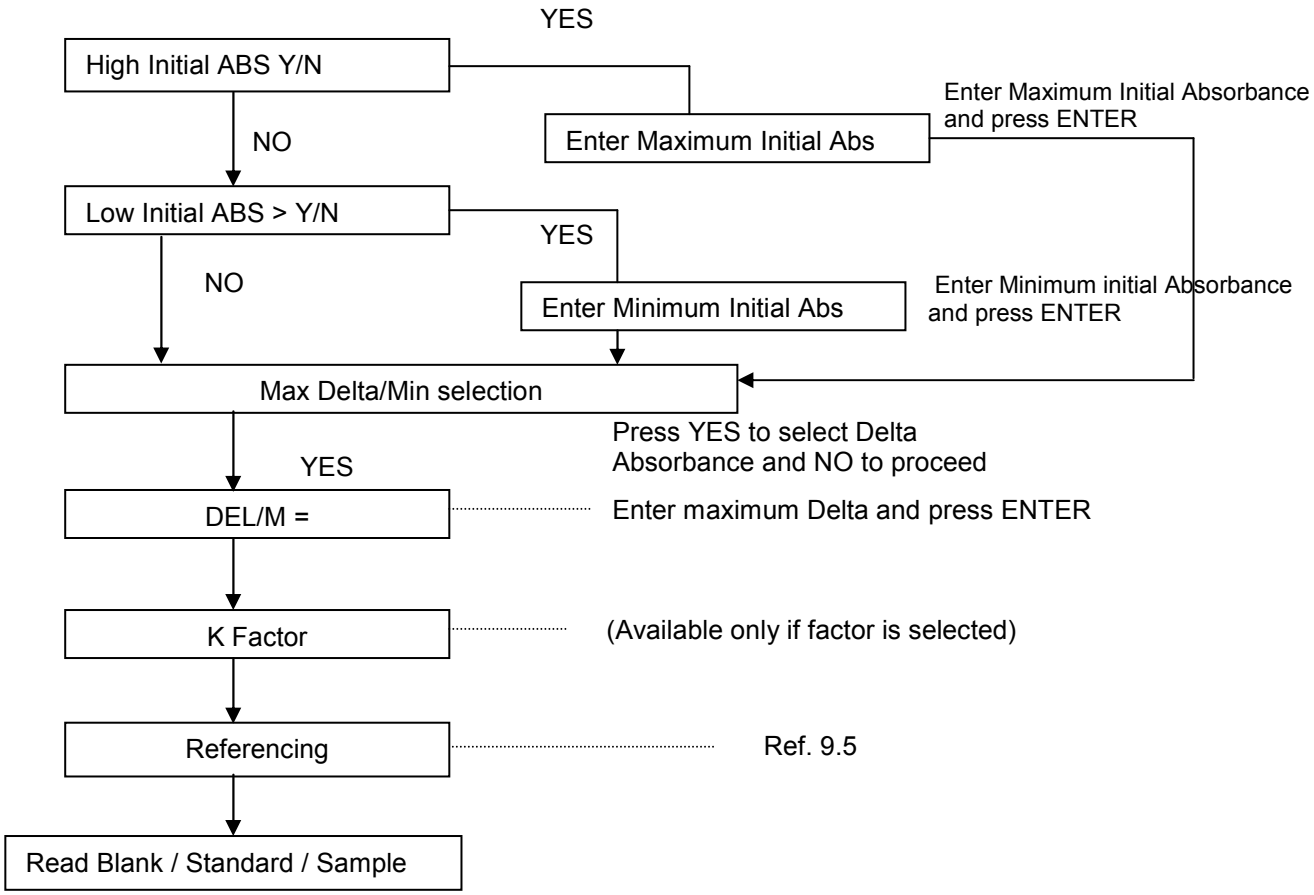
Multiple readings (maximum 15) are taken at set temperature at regular intervals and change in absorbance per minute is calculated. Concentration / Activity of enzyme are calculated from the factor fed by the user or by using calibrator.

OPERATION

Display	**How to operate**
Select Filter	Ref. 9.1
Blank Y/N	If YES, blanking need to be done, before running Standard or Factor
YES / NO	
Select Standard or Factor	Ref. 9.2
Unit Selection	Ref. 9.3
Normal Value Selection	Ref 9.4
Select the Lag time in sec	Select Corresponding Number Keys (min. 3 Sec.)
Select the Total Read time In sec	Select Corresponding Number Keys
No. of Reading =	Multiple readings (maximum 15) are taken at set temperature at regular intervals.
High Initial ABS Y/N	Press YES to enter Initial Absorbance and NO to proceed
YES	

Continued on next page

Continued from previous page



– Instrument will wait till the temperature of cuvette reaches the set temperature. Instrument will read the absorbance and calculate concentration and then displays / prints in following format.

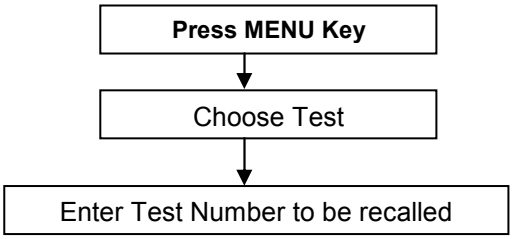
Sample Printout:

```
 KINETIC RATE
 Filters 510      nm
 FACTOR            100.0
 UNITS          mEq/L
 HIGH>             200.0
 LOW<              100.0
 LAG TIME    10
 RD TIME     10
 #  OF RD       3
 QC HIGH =         200.0
 QC LOW =          100.0
 HIGH INIT ABS <=
 I ABS  =          1.000
 DEL/M=            1.600
 S. No   ABS  REM CON
.....
BL1     0.028
S  1    1.019
D  1B   0.171
D  1C          0.118
 DELTA/MINUTE=
  RES  0.870   LOW   87.0
S  2    0.804
D  2B   0.330
D  2C          0.052
DELTA/MINUTE=
  RES  1.147  NORM 114.7
S  3    0.834
D  3B   0.501
D  3C          0.333
DELTA/MINUTE=
  RES  2.503  HIG 250.3
TEST CLEARED
```

```
 KINETIC RATE
 Filters 510      nm
 CAL1              150.0
 UNITS          MIL
 HIGH>             250.0
 LOW<               50.0
 LAG TIME    10
 RD TIME     10
 #  OF RD       3
 QC HIGH =         250.0
 QC LOW =          100.0
 HIGH INIT ABS <=
 I ABS  =          2.000
 DEL/M=            0.800
 S. No   ABS  REM CON
.....
BL1     0.058
CALS  0.770           150.0
D  2B   0.268
D  2C          0.131
DELTA/MINUTE=
HIGH DELTA
CALS  1.197           150.0
FACTOR                125.26
S1      0.762
D  1B   0.336
D  1C          0.298
DELTA/MINUTE=
HIGH DELTA
CALS  1.902    NORM238.3
S2      0.768
D  2B   0.037
```

10.4. End Point:

To create test in this mode Select Test No. 243



Enter 243

The instrument reads absorbance of the sample and calculates concentration using fed Factor or calculates the factor from concentration of the standard.

OPERATION

Display	**How to operate**
Select Filter	Ref. 9.1
Blank Y/N	If YES, blanking need to be done, before running Standard or Factor
YES / NO	
Select Standard or Factor	Ref. 9.2
Unit Selection	Ref 9.3
Normal Value Selection	Ref. 9.4
K Factor	(Available only if factor is selected)
Read Blank/Standard/ Sample	

– Instrument will wait till the temperature of cuvette reaches the set temperature. Instrument will read the absorbance and calculate concentration and then displays / prints in following format.

Sample Print out:

WITH FACTOR

```
END POINT
Filters 340      nm
FACTOR             100.0
UNITS             U/L
HIGH>               300.0
LOW<                100.0
QC HIGH =          300.0
QC LOW =            100.0

S. No   ABS  REM  CON
……..
BL1     0.215                  0.0
S  1    0.943       LOW     94.3
S  2     1.947      NORM194.7
S  3>    3.00       HIG     349.0
 TEST CLEARED
```

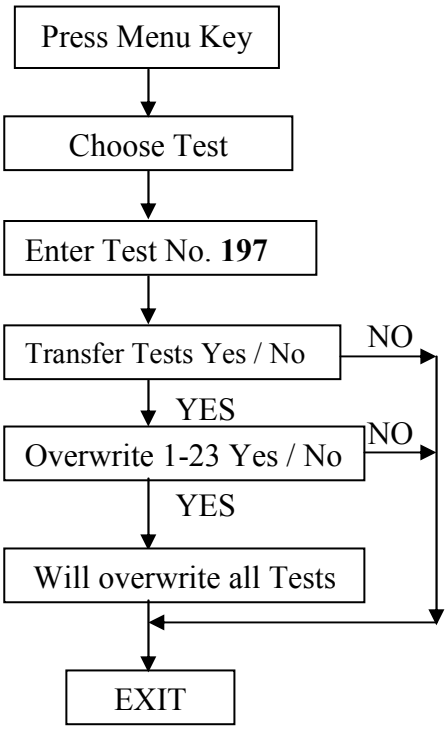
WITH STANDARD

```
END POINT
Filters 340      nm
CALS               200.0
UNITS             U/ml
HIGH>               300.0
LOW<                100.0
QC HIGH =          300.0
QC LOW =            100.0

S. No   ABS  REM CON
……..
BL1     0.210
0.0
 C 1     1.961
200.0
FACTOR
101.96
S1       0.948      LOW
96.6
S2       1.965      NORM
200.3
S3>    3.00         HIG
356.0
TEST CLEARED
```

11. TROUBLE SHOOTING:

11.1. Memory Corrupts:

In case of memory corrupt --Transfer all the test details to RAM memory, to do this use following steps:



(Note: After doing this user has to re run the standards.)

11.2. Error Messages:

ERROR MESSAGES	CORRECTIVE ACTION
Clear Optical Grade Reading Tube	This error will come in Optical Grade Reading Tube mode while referencing. Remove the Optical Grade Reading Tube and press **ENTER** key.
Lamp Off press Enter	In case Instrument remains idle for more than 10 minutes. The lamp will switched off automatically. Press **ENTER** key to proceed.
"SKIP PRIN. PR.YES" "SET PRI & PR.ENT "	Refer to "**Chapter 6.5 Thermal Printer**".

12. DECONTAMINATION

12.1. Decontamination Procedure:

If the instrument is to be shipped after being exposed to potentially hazardous material, it should be decontaminated. The following procedure outlines how to decontaminate the instrument before packaging and shipment.

12.2. Purpose of Decontamination:

Decontamination minimizes the risk to all who come in contact with the instrument during shipping, handling, and servicing.

12.3. General Considerations:

1. Any laboratory instrument that has been used for clinical analysis is considered a biohazard and should be decontaminated prior to handling. Intact skin is generally considered an effective barrier against infectious Organisms; however, small abrasions and cuts may not be always visible. Prophylactic gloves must be worn when handling instruments that have not been decontaminated. Gloved hands should be considered contaminated at all times and must be kept away from eyes, mouth and nose at all times.

2. Mucous membranes are considered prime entry routes for infectious agents.
   Wear eye protection and a surgical mask when there is a possibility of aerosols.

   Eating and drinking while decontaminating instruments is not advisable.

12.4. Procedure:

A solution of .5% Sodium Hypo Chlorite (NaOCL) solution (Bleach) is used. Commercial bleach is 5% NaOCL; household bleach is 3% NaOCL. When using commercial bleach, use a 10:1 mixture; if using household bleach, a 6:1 mixture is required. This is a caustic solution. It is important to wear gloves and eye protection when handling it.

Wipe down the carrier and all exposed surfaces of the unit with the bleach solution. Remove the top shroud of the instrument and wipe down the top surface of the instrument base, as well as the inside of the top shroud.

Reassemble the unit and discard the used gloves and towels.

13. SAFETY CLEARANCE CERTIFICATE:

Please complete all information requests on this form prior to returning the instrument to the manufacturer or your local distributor for servicing, repairs or return. Thank you for your co-operation.

Customer _____ Contact _____

Address _____ Position _____

_____

_____ Dept _____

_____ Tel: _____

Country _____ Fax: _____

Post Code _____

Model No. _____ Serial No. _____

Accessories Returned _____

Date of Purchase (if known) _____

Complaint _____

_____

_____

_____

Has the equipment been exposed to any of the following: (*delete as applicable)

a) Blood, body fluids, pathological specimens *YES/NO

If YES, please specify _____

_____

b) Other Biohazard *YES/NO

if YES, Please specify _____

_____

14. Packing List

ROBONIK®

Packing list of Biochemistry Analyser

Model Name: *prietest*™*easylab*

Sr. No.	Particulars			Qty.	Tick
1.	Power Cord			01	
2.	Thermal Paper Roll			02	
3.	Paper Roll Rod			01	
4.	Dust Cover			01	
5.	Optical Grade Reading Tubes			05	
6.	User Manual			01	
START UP REAGENT KIT					
7.	Bilirubin T & D	BILTD 02 50	2 X 50 ml	01	
8.	Glucose	GLUL 05 100	5 X 100 ml	01	
9.	Urea Mod.	URMB 02 50	2 X 50 ml	01	
10.	Creatinine	CRJA 02 50	2 X 50 ml	01	
11.	Cholesterol	CHO 01 50	1 X 50 ml	01	
12.	GPT/ALT	GPT 01 25	1 X 25 ml	01	
13.	Hemoglobin	HBCMG 1000	1000 ml	01	

Sr. No.: | | | | | | | | | | | | | |

Packed by: _____ **Signature:** _____

Date: _____